# ATTACHMENT F: EMERGENCY AND REMEDIAL RESPONSE PLAN 40 CFR 146.94(a) CLEAN ENERGY SYSTEMS MENDOTA

# 1. Facility Information

Facility name: CLEAN ENERGY SYSTEMS MENDOTA

MENDOTA INJ 1

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T13S R15E S32

LAT/LONG COORDINATES (36.75585015/–120.36440423)

This Emergency and Remedial Response Plan (ERRP) describes actions that Clean Energy Systems shall take to address movement of the injection fluid or formation fluid in a manner that may endanger an underground source of drinking water (USDW) during the construction, operation, or post-injection site care periods.

If Clean Energy Systems obtains evidence that the injected CO<sub>2</sub> stream and/or associated pressure front may cause an endangerment to a USDW, Clean Energy Systems must perform the following actions:

- 1. Initiate shutdown plan for the injection well.
- 2. Take all steps reasonably necessary to identify and characterize any release.
- 3. Notify the permitting agency (UIC Program Director) of the emergency event within 24 hours.
- 4. Implement applicable portions of the approved ERRP.

Where the phrase "initiate shutdown plan" is used, the following protocol will be employed: Clean Energy Systems will immediately cease injection. However, in some circumstances, Clean Energy Systems will, in consultation with the UIC Program Director, determine whether gradual cessation of injection (using the parameters set forth in Attachment A of the Class VI permit) is appropriate.

This attachment is one of the several documents listed below that was prepared by Schlumberger and delivered to Clean Energy Systems. These documents were prepared to support the Clean Energy Systems preconstruction application to the EPA.

- Attachment A: Summary of Requirements Class VI Operating and Reporting Conditions (Schlumberger, 2021a)
- Attachment B: Area of Review and Corrective Action Plan (Schlumberger, 2021b)

- Attachment C: Testing and Monitoring Plan (Schlumberger, 2021c)
- Attachment D: Injection Well Plugging Plan (Schlumberger, 2021d)
- Attachment E: Post-Injection Site Care and Site Closure Plan (Schlumberger, 2021e)
- Attachment F: Emergency and Remedial Response Plan (Schlumberger, 2021f)
- Attachment G: Construction Details Clean Energy Systems Mendota (Schlumberger, 2021g)
- Attachment H: Financial Assurance Demonstration (Schlumberger, 2021h)
- Class VI Permit Application Narrative 40 CFR 146.82(A) Clean Energy Systems Mendota (Schlumberger, 2021i)
- Schlumberger Quality Assurance and Surveillance Plan (Schlumberger, 2021j)

# Contents

1.	Facility Information	1
1.1	Abbreviations	3
2.	Local Resources and Infrastructure	5
3.	Potential Risk Scenarios	6
4.	Emergency Identification and Response Actions	7
4.1	Overpressurized Fluid (Blowout) During Well Construction	7
4.2	Well Integrity Failure	8
4.3	Injection Well Monitoring Equipment Failure	10
4.4	Potential Brine or CO <sub>2</sub> Leakage to USDW	12
4.5	Natural Disaster	
4.6	Induced or Natural Seismic Event	14
5.	Response Personnel and Equipment	19
6.	Emergency Communications Plan	20
7.	Plan Review	20
8.	Staff Training and Exercise Procedures	20
9.	References	22
10.	Appendix A: CES Project Preliminary Risk Register	24

#### 1.1 Abbreviations

AoR: Area of review

CES: Clean Energy Systems

EPA: Environmental Protection Agency

ERRP: Emergency and remedial response plan

Mendota\_INJ\_1: Proposed CO<sub>2</sub> injection well

MIT: Mechanical integrity test

UIC: Underground injection control

USDW: Underground sources of drinking water

USGS: US Geological Survey

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#### 2. Local Resources and Infrastructure

Resources in the vicinity of the Clean Energy Systems Mendota that may be affected as a result of an emergency event at the project site include

- Underground sources of drinking water (USDWs) and water wells within the 2.5-mile radius of the proposed injection location. There are approximately 79 ground water monitoring and irrigation wells and 5 abandoned wells within the radius. A map displaying the locations of these wells can be found in the Class IV Permit Application Narrative (Schlumberger, 2021i). The depth of the water wells within the 2.5-mile radius range from 20 to 550 ft. The San Joaquin River flows north-south and is 0.6 miles due east of the site.
- The northern boundary of the Mendota Wildlife Area is 1.7 miles to the south. Managed by the California Department of Fish and Wildlife, the Mendota Wildlife Area is approximately 11,800 acres consisting of flatlands and floodplain.

Infrastructure in the vicinity of the Clean Energy Systems Mendota that that may be affected as a result of an emergency at the project site include the town of Mendota, CA:

• The town of Mendota, CA is due west of the site. Mendota is a town in Fresno County. The population was 11,014 at the 2010 U.S. Census (U. S. Census Bureau, n.d.). It covers 3.3 square miles and has approximately 2,750 households. The nearest residence to the site is 0.5 miles west and outside the AoR. Mendota is located 8.5 miles south-southeast of Firebaugh, at an elevation of 174 ft. Between the site and the town are several businesses, including Gonzales Transport and airstrip (1,500 ft) west. There is also the King Kool cold storage facility and Oro Loma Ranch/Ruby Fresh, a pomegranate marketing firm. Mendota High School is 0.7 miles southwest. Southern Power's North Star solar facility borders on the north of the site and is a 61-megawatt facility located on 626 acres.

Resources and infrastructure addressed in this plan are shown in Figure 1.

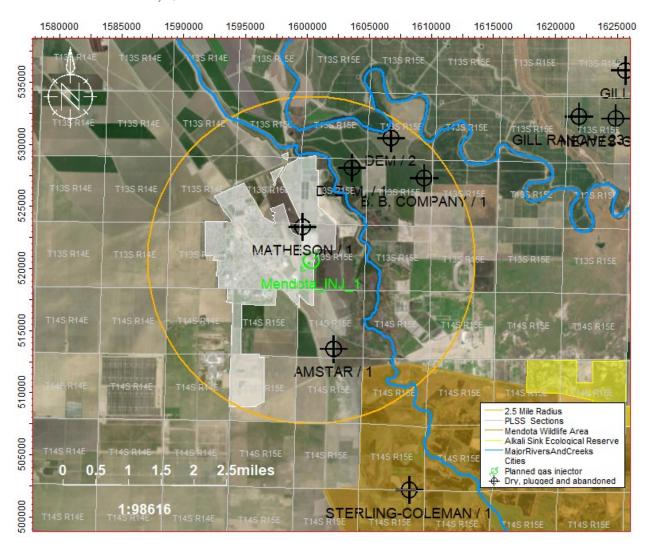


Figure 1: Location of the proposed Mendota\_INJ\_1 CO<sub>2</sub> injection well and surrounding plugged wells. Orange circle denotes 2.5-mile radius around the proposed injection well. The town of Mendota is shaded in white, the Mendota Wildlife Area is shaded in orange, and the Alkali Sink Ecological Reserve is shaded in yellow. Data from IHS (2020) California Department of Fish and Wildlife (2021), California State Geoportal (2021), California Open Data Portal (2019), and California Natural Resources Agency (2021).

# 3. Potential Risk Scenarios

The following events related to the Clean Energy Systems Mendota could potentially result in an emergency response:

- Overpressurized fluid (blowout) during well construction
- Injection or monitoring (verification) well integrity failure
- Injection well monitoring equipment failure (e.g., shutoff valve or pressure gauge, etc.)

- A natural disaster (e.g., earthquake, tornado, lightning strike)
- Fluid (e.g., brine) leakage to a USDW
- CO<sub>2</sub> leakage to USDW or to land surface
- Induced seismic event

Response actions will depend on the severity of the event(s) triggering an emergency response. "Emergency events" are categorized as shown in Table 1.

*Table 1. Degrees of risk for emergency events.* 

<b>Emergency Condition</b>	Definition
Major emergency	Event poses immediate substantial risk to human health, resources, or infrastructure. Emergency actions involving local authorities (evacuation or isolation of areas) should be initiated.
Serious emergency	Event poses potential serious (or significant) near-term risk to human health, resources, or infrastructure if conditions worsen, or no response actions taken.
Minor emergency	Event poses no immediate risk to human health, resources, or infrastructure.

# 4. Emergency Identification and Response Actions

Steps to identify and characterize the event will depend on the specific issue identified and the severity of the event. The potential risk scenarios that were identified in section 3 are detailed below.

## 4.1 Overpressurized Fluid (Blowout) During Well Construction

This event could occur during well drilling if a pocket of high-pressure gas or fluid is encountered or due to an operational error or equipment failure. For further details please refer to Risk Register Scenario number 1a (Appendix A: CES Project Preliminary Risk Register).

**Severity:** Catastrophic

**Timing of event:** Pre-injection and injection **Avoidance measures**: Monitoring and training

**Detection methods:** Pressure monitoring, injection rate decreasing, and fluid leaks

# **Potential response actions:**

- Limit access to wellhead to authorized personnel only.
- Cease drilling operations to prevent loss of drilling fluid due to lost circulation and/or drilling into an overpressured formation.

- Close flow valve (blowout preventer) if pressures and flows permit; at a minimum, vent to a controlled area.
- Regain pressure control by restoring fluid levels in the wellbore with appropriate density mud, restriction of flow through choke, or both.
- For a Major or Serious emergency:
  - o Initiate well control procedures (see well plan).
  - o Alert local fire and police and UIC Program Director immediately.
- For a Minor emergency:
  - Regain pressure control by restoring fluid levels in the wellbore with appropriate density mud, restriction of flow through choke, or both.
  - o Determine the cause of the event and initiate remediation procedures.
  - Notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).

Response personnel: Site operator, well engineer, and project manager

Equipment: Pressure control equipment, pumping equipment, and rig

# 4.2 Well Integrity Failure

Integrity loss of the injection well and/or verification well may endanger USDWs. Examples of well integrity failure include scenarios related to wellhead pressure, annulus pressure, mechanical integrity, and failure of monitoring equipment. For further details please refer to Risk Register scenario numbers 2a, 2b, and 2c (Appendix A: CES Project Preliminary Risk Register).

Integrity loss may be indicated if the following events occur:

- 1. Wellhead pressure exceeds the specified shutdown pressure specified in the permit.
- 2. Annulus pressure indicates a loss of external or internal well containment.
- 3. Mechanical integrity test results identify a loss of mechanical integrity.

Automatic shutdown devices are activated when

- Wellhead or downhole pressures exceed the specified shutdown pressure specified in the permit.
- Annulus pressure and/or fluid volumes indicate a loss of external or internal well containment.
- Mechanical integrity test results identify a loss of mechanical integrity.

Pursuant to 40 CFR 146.91(c)(3), Clean Energy Systems must notify the UIC Program Director within 24 hours of any triggering of a shutoff system (i.e., downhole or at the service).

Severity: Light, serious, or catastrophic

Timing of event: Injection/monitoring

Avoidance measures: Well maintenance, injection within permitted limits, and monitoring

**Detection methods:** Pressure monitoring and mechanical integrity tests

## **Potential response actions:**

- Limit access to wellhead to authorized personnel only.
- Notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).
- Determine the severity of the event, based on the information available, within 24 hours of notification.
- For a Major or Serious emergency (verified loss or increase of pressure or fluid volumes and/or loss of mechanical integrity during testing and maintenance)
  - o Initiate immediate shutdown plan.
  - O Shut in well (close flow valve) after verifying pressures, with analog gauges, to confirm no damage will occur to the well or USDW.
  - Monitor well pressure, temperature, and acoustics to verify integrity loss and determine the cause and extent of failure; identify and implement appropriate remedial actions to repair damage to the well (in consultation with the UIC Program Director).
  - Vent fluids, if necessary, from the wellhead to maintain acceptable pressures at surface and downhole to prevent damage to the wellhead or casing.
  - Communicate with CES personnel and local authorities to initiate evacuation plans, as necessary.
  - o If contamination is detected, identify and implement appropriate remedial actions (in consultation with the UIC Program Director).
  - Conduct assessment to determine whether there has been a loss of mechanical integrity.
  - o Identify and implement appropriate remedial actions to repair damage to the well (in consultation with the UIC Program Director).
  - o If there is damage to the wellhead, repair the damage and conduct a survey to ensure wellhead leakage has ceased.
  - Confirm well integrity prior to restarting injection (upon approval of the UIC Program Director).
  - o Review downhole, wellhead, and annulus pressure data.
  - o Isolate the nearby area, if needed; establish a safe distance and perimeter using a hand-held air-quality monitor.
  - Perform a well log/mechanical integrity test (MIT) to detect CO<sub>2</sub> movement outside of the casing.

- For a Minor emergency (downhole and surface sensor/monitoring equipment failure, procedural maintenance error or plant issue)
  - o Initiate immediate shutdown plan.
  - Monitor well pressure, temperature, and acoustics to verify integrity loss and determine the cause and extent of failure; use analog gauges to identify and implement appropriate remedial actions to repair damage to the well (in consultation with the UIC Program Director).
  - o If a shut off is triggered by mechanical or electrical malfunctions without endangering a USDW, repair faulty components.
  - o Review downhole, wellhead, and annulus pressure data.
  - Confirm well integrity prior to restarting injection (upon approval of the UIC Program Director).
  - If contamination is detected or well integrity has been determined to have occurred, then the situation becomes a Major or Serious emergency. Refer to Major or Serious solutions above.

Response personnel: Site operator, well engineer, and project manager

**Equipment:** Workover rig or coiled tubing unit, wireline, slickline, and well control equipment

# 4.3 Injection Well Monitoring Equipment Failure

The failure of monitoring equipment for wellhead/downhole pressure, temperature, and/or acoustics may indicate a problem with the injection well that could endanger USDWs. Additionally, equipment failures (sensor, computer, cabling, etc.) and damage to the wellhead could endanger the USDW. For further details, please refer to Risk Register scenario numbers 3a and 3b (Appendix A: CES Project Preliminary Risk Register).

Severity: Light to catastrophic

Timing of event: Injection/monitoring

Avoidance measures: Well maintenance, injection within permitted limits, and monitoring

**Detection methods:** Equipment monitoring

#### **Potential response actions:**

- Notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).
- Determine the severity of the event, based on the information available, within 24 hours of notification.
- Limit access to wellhead to authorized personnel only.
- For a Major or Serious emergency (failure of sensors that will require shutdown of well to repair, extended repair time of >48 hours, and/or well reentry to fix problem):
  - o Initiate immediate shutdown plan.

- Monitor well pressure, temperature, and acoustics to verify integrity loss and determine the cause and extent of failure; identify and implement appropriate remedial actions to repair damage to the well (in consultation with the UIC Program Director).
- o Review downhole and wellhead pressure, temperature, and acoustic data.
- Evaluate pressures and conditions via analog gauges to determine no damage to wellbore, wellhead, or USDW will occur.
- o Shut in well (close flow valve or allow packer fluid into reservoir, fill hole).
- O Vent fluids from wellbore and surface facilities.
- Communicate with CES personnel and local authorities to initiate evacuation plans, as necessary.
- Monitor well pressure, temperature, and annulus pressure to verify integrity loss and determine the cause and extent of failure; identify and implement appropriate remedial actions to repair damage to the well (in consultation with the UIC Program Director).
- o If contamination is detected, identify and implement appropriate remedial actions (in consultation with the UIC Program Director).
- Isolate the nearby area, if needed; establish a safe distance and perimeter using a hand-held air-quality monitor.
- o Perform a well log/MIT to detect CO<sub>2</sub> movement outside of the casing.
- For a Minor emergency (sensor or monitoring failure that does not require shutdown of well to repair)
  - Monitor well pressure, temperature, and acoustics to verify integrity loss and determine the cause and extent of failure; identify and implement appropriate remedial actions to repair damage to the well (in consultation with the UIC Program Director).
  - Conduct assessment to determine whether there has been a loss of mechanical integrity.
  - If there has been a loss of mechanical integrity, continue shutdown plan and refer to Major or Serious emergency guidelines.
  - o Reset automatic shutdown devices.
  - Evaluate the cause of the failure, and mitigate if necessary (i.e., repair equipment).
  - Confirm well integrity prior to restarting injection and upon approval of the UIC Program Director.

**Response personnel:** Site operator, well engineer, technician(s) for monitoring equipment and project manager

Equipment: Workover rig, wireline, backup monitoring equipment

# 4.4 Potential Brine or CO<sub>2</sub> Leakage to USDW

A problem may be indicated if elevated concentrations of indicator parameter(s) are seen in groundwater sample(s) or there is other evidence of fluid (brine) or CO<sub>2</sub> leakage into a USDW. This scenario will encompass any evidence of CO<sub>2</sub> or fluid movement out of the injection zone (i.e., not necessarily to a USDW) to address unanticipated events associated with faults or other pathways, any potential USDW endangerment/unacceptable changes in water quality, and CO<sub>2</sub> leakage to the land surface. For further details, please refer to Risk Register scenario numbers 4a and 4b (Appendix A: CES Project Preliminary Risk Register).

To better protect the USDW and to have an early warning system for USDW impact, it is important to monitor out-of-zone CO<sub>2</sub> migration above the storage complex. The technology that is planned to be used to identify and quantify the severity of a potential brine or CO<sub>2</sub> leakage to USDW is described in the testing and monitoring plan (Schlumberger, 2021c).

Severity: Catastrophic

Timing of event: Pre-injection, injection, and/or post-injection phases

Avoidance measures: Well maintenance, injection within permitted limits, and monitoring

**Detection methods:** Fluid sampling and atmospheric and subsurface monitoring

## **Potential response actions:**

- Notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).
- Determine the severity of the event, based on the information available, within 24 hours of notification.
- Limit access to wellhead to authorized personnel only.
- For all emergencies (Major, Serious, or Minor):
  - o Initiate shutdown plan.
  - o If the presence of indicator parameters is confirmed, develop (in consultation with the UIC Program Director) a case-specific work plan to
    - Install additional groundwater monitoring points near the affected groundwater well(s) to delineate the extent of impact; and
    - Remediate unacceptable impacts to the affected USDW.
  - o Perform pressure and surface monitoring and periodic visual inspection.
  - o Arrange for an alternate potable water supply, if the USDW was being utilized and has been caused to exceed drinking water standards.
  - o Proceed with efforts to remediate USDW to mitigate any unsafe conditions (e. g., install system to intercept/extract brine or CO<sub>2</sub> or "pump and treat" to aerate CO<sub>2</sub>-laden water).

- Continue groundwater remediation and monitoring on a frequent basis (frequency to be determined by Clean Energy Systems and the UIC Program Director) until unacceptable adverse USDW impact has been fully addressed.
- o If there is a well integrity issue, specific steps will be taken to identify the location of the failure/leak, affect repairs, and demonstrate mechanical integrity.
- o If the leak poses a risk to air quality the nearby area will be isolated, and a safe distance and perimeter will be established using a hand-held air-quality monitor.

Response personnel: Site operator, groundwater consultant, and project manager

**Equipment:** Groundwater remediation equipment

#### 4.5 Natural Disaster

Well problems (integrity loss, leakage, or malfunction) may arise as a result of a natural disaster affecting the normal operation of the injection well. An earthquake may disturb surface and/or subsurface facilities, and weather-related disasters (e. g., tornado or lightning strike) may affect surface facilities. For further details please refer to Risk Register scenario number 5a (Appendix A: CES Project Preliminary Risk Register).

Severity: Catastrophic

**Timing of event:** Pre-injection, injection, and/or post-injection phases

Avoidance measures: Meteorological monitoring

**Detection methods:** Microseismic monitoring and meteorological monitoring

#### **Potential response actions:**

- Notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).
- Determine the severity of the event, based on the information available, within 24 hours of notification.
- Limit access to wellhead to authorized personnel only.
- For a Major or Serious emergency:
  - o Initiate immediate shutdown plan. Shut in well (close flow valve).
  - Vent CO<sub>2</sub> from surface facilities if appropriate.
  - Communicate with CES personnel and local authorities to initiate evacuation plans, as necessary.
  - Monitor well pressure, temperature, and annulus pressure to verify integrity loss and determine the cause and extent of failure; identify and implement appropriate

remedial actions to repair damage to the well (in consultation with the UIC Program Director).

- o Determine if any leaks to groundwater or surface water occurred.
- o If contamination is detected, identify and implement appropriate remedial actions (in consultation with the UIC Program Director).
- For a Minor emergency:
  - Conduct assessment to determine whether there has been a loss of mechanical integrity.
  - o If there has been a loss of mechanical integrity, initiate immediate shutdown plan.
  - o If there has not been a loss of mechanical integrity, initiate gradual shutdown.
  - o Shut in well (close flow valve).
  - Vent CO<sub>2</sub> from surface facilities if appropriate.
  - Monitor well pressure, temperature, and annulus pressure to verify integrity loss and determine the cause and extent of failure; identify and implement appropriate remedial actions to repair damage to the well (in consultation with the UIC Program Director).

Response personnel: Site operator and groundwater consultant

**Equipment:** To be determined immediately following natural disaster

#### 4.6 Induced or Natural Seismic Event

Based on the project operating conditions, it is highly unlikely that injection operations would ever induce a seismic event. Simulations show extremely small pressure increase produced by the planned injection into the Second Panoche formation. Therefore, this portion of the response plan is developed for any seismic event with an epicenter within a 0.5-mile radius of the injection well.

To monitor the area for seismicity, an optical cable will be installed in the above-confining-zone monitor well (Mendota\_ACZ\_1) with digital acoustic sensing (DAS). The DAS fiber cable will monitor continuously and be recorded by a surface recording system. The recording system will be programmed to identify induced seismic events in real time to automatically send alerts to site safety personnel.

Based on the periodic analysis of the monitoring data, observed level of seismic activity, and local reporting of felt events, the site will be assigned an operating state. The operating state is determined using threshold criteria, which correspond to the site's potential risk and level of

seismic activity. The operating state provides operating personnel information about the potential risk of further seismic activity and guides them through a series of response actions.

The seismic monitoring system structure is presented in Table 2. The table corresponds each level of operating state with the threshold conditions and operational response actions. For further details please refer to Risk Register scenario numbers 6a, 6b, 6c, 6d and 6e (Appendix A: CES Project Preliminary Risk Register).

Severity: Light, Major, or Catastrophic

Timing of event: Pre-injection, injection, and/or post-injection phases

Avoidance measures: Injection within permitted limits

**Detection methods:** Microseismic monitoring

**Potential response actions:** Response actions are shown in Table 2.

Response personnel: Site operator and microseismic provider

**Equipment:** Microseismic monitoring and falloff test

Table 2. Seismic monitoring system, for seismic events > M1.0 with an epicenter within a 0.5-mile radius of the injection well.

<b>Operating State</b>	Threshold Condition 1,2	Response Action <sup>3</sup>
Green	Seismic events less than or equal to M1.5	<ol> <li>Continue normal operation within permitted levels.</li> <li>Document the event for reporting to EPA in semiannual reports.</li> </ol>
Yellow	Five (5) or more seismic events within a 30-day period having a magnitude greater than M1.5 but less than or equal to M2.0	<ol> <li>Continue normal operation within permitted levels.</li> <li>Initiate gradual shutdown of the well if it is determined to be appropriate.</li> <li>Within 24 hours of the incident, notify the UIC Program Director of the operating status of the well.</li> <li>Review seismic and operational data to determine location and magnitude of seismic event. If the event falls within or near the extents of the plume, use the microseismic, geomechanics and facies data to estimate potential impact to USDWs. Perform a pressure falloff test to determine if the storage complex has been compromised by the seismic event.</li> <li>Document the event for reporting to EPA in semiannual reports.</li> </ol>
Orange	Seismic event greater than M1.5 and local observation or felt report  Seismic event greater than M2.0 and no felt report	<ol> <li>Continue normal operation within permitted levels.</li> <li>Initiate gradual shutdown of the well if it is determined to be appropriate.</li> <li>Within 24 hours of the incident, notify the UIC Program Director, of the operating status of the well.</li> <li>Review seismic and operational data to determine location and magnitude of seismic event. If the event falls within or near the extents of the plume, use the microseismic, geomechanics and facies data to estimate potential impact to USDWs. Perform a pressure falloff test to determine if the storage complex has been compromised by the seismic event.</li> <li>Report findings to the UIC Program Director and issue corrective actions.</li> <li>Document the event for reporting to EPA in semiannual reports.</li> </ol>

<sup>&</sup>lt;sup>1</sup> Specified magnitudes refer to magnitudes determined by local Clean Energy Systems or USGS seismic monitoring stations or reported by the USGS National Earthquake Information Center using the national seismic network.

<sup>&</sup>lt;sup>2</sup> "Felt report" and "local observation and report" refer to events confirmed by local reports of felt ground motion or reported on the USGS "Did You Feel It?" reporting system.

<sup>&</sup>lt;sup>3</sup> Reporting findings to the UIC Program Director and issuing corrective action will occur within 25 business days (five weeks) of change in operating state.

<b>Operating State</b>	Threshold Condition 1,2	Response Action <sup>3</sup>
Magenta	Seismic event greater than M2.0 and local observation or report	<ol> <li>Limit access to wellhead to authorized personnel only.</li> <li>Initiate gradual shutdown of the well if it is determined to be appropriate.</li> <li>Within 24 hours of the incident, notify the UIC Program Director, of the operating status of the well.</li> <li>Communicate with facility personnel and local authorities to initiate evacuation plans, as necessary.</li> <li>Monitor well pressure, temperature, and annulus pressure to verify well status and determine the cause and extent of any failure; identify and implement appropriate remedial actions (in consultation with the UIC Program Director).</li> <li>Determine if leaks to ground water or surface water or a CO<sub>2</sub> leak to the surface occurred.</li> <li>If a CO<sub>2</sub> leak or USDW contamination/endangerment is detected:         <ul> <li>a. Notify the UIC Program Director within 24 hours of the determination and implement appropriate remedial actions in consultations with the Director.</li> </ul> </li> <li>Review seismic and operational data to determine location and magnitude of seismic event. If the event falls within or near the extents of the plume, use the microseismic, geomechanics and facies data to estimate potential impact to USDWs. Perform a pressure falloff test to determine if the storage complex has been compromised by the seismic event.</li> <li>Report findings to the UIC Program Director and issue corrective actions.</li> <li>Document the event for reporting to EPA in semiannual reports.</li> </ol>
Red	Seismic event greater than M2.0, and local observation or report, and local report and confirmation of damage <sup>4</sup>	<ol> <li>Limit access to wellhead to authorized personnel only.</li> <li>Initiate immediate shutdown plan.</li> <li>Within 24 hours of the incident, notify the UIC Program Director of the operating status of the well.</li> </ol>

<sup>4</sup> 

<sup>&</sup>lt;sup>4</sup> Onset of damage is defined as cosmetic damage to structures, such as bricks dislodged from chimneys and parapet walls, broken windows, and fallen objects from walls, shelves, and cabinets.

<b>Operating State</b>	Threshold Condition 1,2	Response Action <sup>3</sup>
	Seismic event >M3.5	<ol> <li>Communicate with facility personnel and local authorities to initiate evacuation plans, as necessary.</li> <li>Monitor well pressure, temperature, and annulus pressure to verify well status and determine the cause and extent of any failure; identify and implement appropriate remedial actions (in consultation with the UIC Program Director).</li> <li>Determine if leaks to ground water or surface water or a CO<sub>2</sub> leak to the surface occurred.</li> <li>If a CO<sub>2</sub> leak or USDW contamination/endangerment is detected:         <ul> <li>a. Notify the UIC Program Director within 24 hours of the determination and implement appropriate remedial actions in consultations with the Director.</li> </ul> </li> <li>Review seismic and operational data to determine location and magnitude of seismic event. If the event falls within or near the extents of the plume, use the microseismic, geomechanics and facies data to estimate potential impact to USDWs. Perform a pressure falloff test to determine if the storage complex has been compromised by the seismic event.</li> <li>Report findings to the UIC Program Director and issue corrective actions.</li> <li>Document the event for reporting to EPA in semiannual reports.</li> </ol>

# 5. Response Personnel and Equipment

Site personnel, project personnel, and local authorities will be relied upon to implement this ERRP.

Site personnel to be notified (not listed in order of notification):

- 1. Emergency Coordinator 24-hour number—Control Room technician on duty: 559-655-4923
- 2. Plant Safety Manager Clint Cooper: Office: (559) 655-3947; 24 hr: 559-916-2139
- 3. Alternate Facility Emergency Coordinator: Arnold Gonzales: Office: 559-655-4921, ext 12, mobile: 559-916-2142

#### 4. Plant Manager

A site-specific emergency contact list will be developed and maintained during the life of the project. Clean Energy Systems will provide the current site-specific emergency contact list to the UIC Program Director. Contact information for local, state, and other authorities is given in Table 3.

Table 3. Contact information for key local, state, and other authorities.

Agency	Phone Number
Local police	911
Mendota Fire Department	911
Ambulance/Paramedics	911
Fresno Community Regional Medical Center	24 hr 559-459-6000
Poison Control Center	800-342-9293
California Office of Emergency Services	24 hr 800-852-7550
State Water Quality Control Board (Central Valley)	916-255-3000
Environmental services contractor - Schlumberger	661-864-4700
UIC Program Director	Not yet assigned
EPA National Response Center (24 hours)	800-424-8802
State geological survey	916-322-1080

Equipment needed in the event of an emergency and remedial response will vary, depending on the triggering emergency event. Response actions (cessation of injection, well shut-in, and evacuation) will generally not require specialized equipment to implement. Where specialized equipment (such as a drilling rig or logging equipment) is required, Clean Energy Systems shall be responsible for its procurement.

# 6. Emergency Communications Plan

Clean Energy Systems will communicate to the public about any event that requires an emergency response to ensure that the public understands what happened and whether there are any environmental or safety implications. The amount of information, timing, and communications method(s) will be appropriate to the event, its severity, whether any impacts to drinking water or other environmental resources occurred, any impacts to the surrounding community, and their awareness of the event.

Clean Energy Systems will describe what happened, any impacts to the environment or other local resources, how the event was investigated, what responses were taken, and the status of the response. For responses that occur over the long-term (e. g., ongoing cleanups), Clean Energy Systems will provide periodic updates on the progress of the response action(s).

Clean Energy Systems will also communicate with entities who may need to be informed about or take action in response to the event, including local water systems, CO<sub>2</sub> source(s) and pipeline operators, landowners, and Regional Response Teams (as part of the National Response Team).

### 7. Plan Review

This ERRP shall be reviewed:

- At least once every five (5) years following its approval by the permitting agency
- Within one (1) year of an area of review (AOR) reevaluation
- Within 30 days, or other time prescribed by the EPA Director, following any significant changes to the injection process or the injection facility, or an emergency event
- As required by the permitting agency

If the review indicates that no amendments to the ERRP are necessary, Clean Energy Systems will provide the permitting agency with the documentation supporting the "no amendment necessary" determination.

If the review indicates that amendments to the ERRP are necessary, amendments shall be made and submitted to the permitting agency within 30 days, or other time prescribed by the EPA Director, following an event that initiates the ERRP review procedure.

# 8. Staff Training and Exercise Procedures

CES will integrate the ERRP into the storage site-specific standard operating procedures and training program:

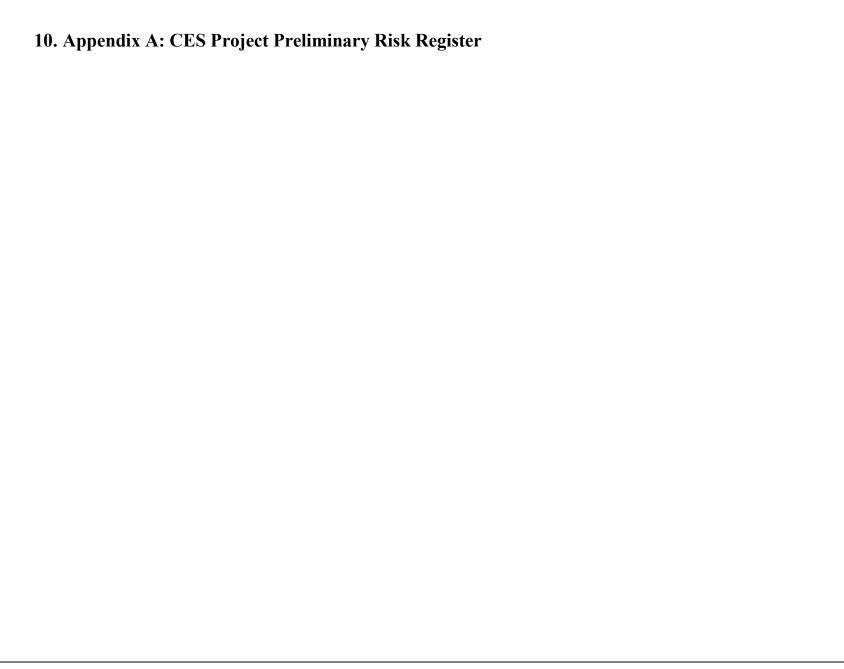
• Periodic training will be provided, not less than annually.

•	Training will be provided to well operators, plant safety and environmental personnel, the plant manager, plant superintendent, and corporate communications. The training plan will document that the above-listed personnel have been trained and possess the required skills to perform their relevant emergency response activities described in the ERRP.

#### 9. References

- California Department of Fish and Wildlife. (2021). *Mendota Wildlife Area*. Retrieved from https://wildlife.ca.gov/Lands/Places-to-Visit/Mendota-WA
- California Department of Water Resources. (n.d.). Retrieved from water.ca.gov/Library/Other-DWR-Portals
- California Natural Resources Agency. (2021). Retrieved from https://data.cnra.ca.gov/dataset/national-hydrography-dataset-nhd
- California Open Data Portal. (2019). Retrieved from https://data.ca.gov/dataset/ca-geographic-boundaries
- California State Geoportal. (2021). *Public Land Survey Systems (PLSS): Sections*. Retrieved from https://gis.data.ca.gov/datasets/2b43d73d12664b73943478741dc5dbf4 1/about
- (2021). CLASS VI PERMIT APPLICATION NARRATIVE 40 CFR 146.82(a) Clean Energy Systems Mendota. CES.
- IHS. (2020). Retrieved from https://my.ihs.com/energy
- Schlumberger. (2021a). Attachment A: Summary of Requirements Class VI Operating and Reporting Conditions.
- Schlumberger. (2021b). Attachment B: Area of Review and Corrective Action Plan 40 CFR 146.84(b) Clean Energy Systems Mendota.
- Schlumberger. (2021c). Attachment C: Testing and Monitoring Plan 40 CFR 146.90 Clean Energy Systems Mendota.
- Schlumberger. (2021d). Attachment D: Injection Well Plugging Plan 40 CFR 146.92(B) Clean Energy Systems Mendota.
- Schlumberger. (2021e). Attachment E: Post-Injection Site Care and Site Closure Plan 40 CFR 146.93(A) Clean Energy Systems Mendota.
- Schlumberger. (2021f). Attachment F: Emergency and Remedial Response Plan 40 CFR 146.94(A) Clean energy Systems Mendota.
- Schlumberger. (2021g). Attachment G: Construction Details Clean Energy Systems Mendota.
- Schlumberger. (2021h). Attachment H: Financial Assurance Demonstration 40 CFR 146.85 Clean Energy Systems Mendota.
- Schlumberger. (2021i). Class VI Permit Application Narrative 40 CFR 146.82(A) Clean Energy Systems Mendota.

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S. Census Bureau. (n.d.). <i>QuickFacts: Mendota city, California</i> . Retrieved from https://www.census.gov/quickfacts/fact/table/mendotacitycalifornia/POP010220	



#### CES Project Preliminary Risk Register



Contractinger   Contractinger   Contractinger   Contractinger   Contractinger   Contracting   Cont					Identification						Qualitative	e Analysis						Risk Response					
Part	Risk Number	Date Identified	Identified By	Project Phase	Description of Risk	Risk Trigger(s)	Risk Type	Risk Category	Likelihood	Severity		Risk			Strate		Category			Response Personnel	Equipment	Status	Risk Number
Residue   Part													Likei	allhood	Mitigation		Material Control Mines			Site Operator		0	1
Part											Links	Very Low I	Low Me	edium High Very High	Minution	into an over-pressured formation.	,,		Monitoring		Brazzura Control aminmant	Open	<b>↓</b>
Part	10		Schlumberner	Drilling	Over-pressurized fluid (blowout) during	Recipit of high programs are or fluid amountered during drilling.	Drilling	HS	Vary I mw	Catastrophic	Serious					initiate wer control procedures (see wer pair).  Close flow valve (blowout preventer) if considered appropriate not to damage well and USDW.			Monitoring		Pressure Control equipment	Open	10
Part			Othunburgu	Lining	well construction	1. 1 Const of right pressure gas or mad embouring drining.			,		ĝ				Mitigation	Regain pressure control by restoring fluid levels in the wellbore with appropriate density mud. restriction of flow through choke or both.			Monitoring		Pumping Equipment Rig	Onen	-
Part											Catastrophic	Х			Mitigation Mitigation	Alert local fire and police and UIC Program Director immediately.  Determine cause of event and initiate remediation procedures.		Well Eng.	Monitoring Monitoring	Well Eng., Project Mgr.		Open Open	.
Part											•				Mitigation	Notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146,91(c).	Major/Serious, Minor					Open	
Part													Likel	ellhood				Site Operator	Signage	Site Operator		Open	-
# Part of the part												Very Low I	Low Me	edium High Very High	Mitigation	Determine the severity of the event, based on the information available, within 24 hours of notification.	Major/Serious, Minor			0. 7 0		Open	
# Part of the part											Light		х		-	Notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).	Major/Serious, Minor	, ,				Open	. I
Part											Serious				Mitigation				+			Open	
# Part										1	Major				Mitigation			Site Operator	Monitoring	Site Operator	Wireline	Open	-
Part											6				Mitigation	Monitor well pressure, temperature, and annulus pressure to verify integrity loss and determine the cause, location and extent of failure; identify and implement connection remedial actions to monit demand to the well in constitution with the		Well Eng	Monitoring	Well Eng	Wireline logs, workover rig	Open	
											Catastrophic		_										. I
1											Multi-Catastrophic				Mitigation	as necessary.	Major/Serious	Site Operator	Monitoring	Site Operator		Open	
## 1	2a		Schlimberner	Injection/Monitoring	Injection or monitoring (verification) well	Welhead pressure exceeds the specified shutdown pressure specified	Founment	HS	Low	Links					Miligation	determined faulty or in need of maintenance commence repair/replacement	Minor	Site Operator	Maintenance	Site Operator		Open	2a
Part	_			-,,	integrity failure	In the permit.	-,-,-															T.	_
## 14 18 19 19 19 19 19 19 19 19 19 19 19 19 19															Mitigation	Vent fluids, if needed to maintain acceptable pressures as surface and downhole as not to damage the wellhead or casing.	Major/Serious	Site Operator	Monitoring	Site Operator		Open	
Part															Mitigation	If contamination is detected, identify and implement appropriate remedial actions (i. consultation with the UIC Program Director).	n Major/Serious	Project Mor	Monitoring	Project Mor		Onen	
Part															Mitigation	Conduct assessment to determine whether there has been a loss of mechanical integrity.	Minor	Well Eng/Site Operator	Monitoring	Well Eng	Wireline logs	Open	
1																If there has been a loss of mechanical integrity, initiate shutdown plan. Provided					Workover rig to pull tubing if		
Part															Miligation	Packer fluid into reservoir and keep well full with fluid in mechanical integrity permits	Minor	Wei Engrisite Operator	Monstoring	Wei Eng	required	Upen	
1															Mitigation		Minor	Site Operator	Monitoring	Site Operator		Open	- I
Part															Mitigation	endangering a USDW, repair faulty components. electrical maifunctions without endangering a USDW, repair faulty components.	Minor	Well Eng., Project Mgr.	Monitoring/Maintenance	Well Eng., Project Mgr.		Open	
14   16   16   16   16   16   16   16	-																						
Part													Likel	elihood	Mitigation	Limit access to wellhead to authorized personnel only.  Determine the severity of the event, based on the information available, within 24			Signage			Open	1
# Para para para para para para para para												Very Low I	Low Me	edium High Very High	Mitigation	Notify the UIC Program Director within 24 hours of the emergency event, per 40	Major/Serious, Minor		Monitoring			Open	1
# Part of the part													¥		Mitigation	Initiate immediate shutdown plan.		Site Operator	Monitoring	Site Operator		Open	1
## Part of the par											A Serious		_		Mitigation	Shut in well (close flow valve). After verifying pressures will not damage well or LISDW. Allow packer fluid into reservoir to stop CO2 flow and keep well full with	Major/Serious	Site Operator	Monitoring	Site Operator	Wireline, Workover rig to pull	Open	
Part											Major Major				Ť	proper density fluid if required.	, .			,	tubing if required		- 1
Matter   M											Catastrophic		_		Mitigation	Properties.			ů			Open	- 1
Part											Multi-Catastrophic				Mitgation				Monitoring			Open	
Part															Mitigation	determine the cause and extent of failure; identify and implement appropriate remedial actions to repair damage to the well (in consultation with the UIC Program	Major/Serious	Well Engineer	Monitoring	Well Engineer	Wireline logs, workover rig	Open	
# Part	2b		Schlumberger	Injecting/Monitoring	integrity failure	containment.	Equipment	HS	Low	Serious					Migation			Well Engineer, Project Mg	lgr Monitoring	Well Engineer		Open	2b
Part															Mitigation	Conduct assessment to determine whether there has been a loss of mechanical	Minor	Well Engineer	Monitoring	Well Engineer	Wireline logs	Open	1
## Part															Migation		Minor	Well Engineer	Monitoring			re Open	1
Residence															Mitigation	snutown to get repairs accomprised, may include plugs.  Verit fluids if from wellhead in order to maintain acceptable pressures as surface an	d Minor		Monitoring			Open	1
Part															Mitigation	Reset automatic shutdown devices.	Minor	Site Operator	Monitoring	Site Operator		Open	4
Part															Mitigation	Monitor well pressure, temperature, and annuas pressure to verry integrity loss and determine the cause and extent of failure; identify and implement appropriate remedial actions to renair damage to the well (in consultation with the LIIC Program	Minor	Well Engineer	Monitoring	Well Engineer	Wireline logs, workover rig	Open	
State   Stat																Ulrector).							- 1
Part															Mitigation	If a shut off is triggered by mechanical or electrical malfunctions without endangering a USDW, repair faulty components.	Minor	Site Operator	Monitoring/Maintenance	Site Operator		Open	
Part																Verify with analog gauges.						1	
Scharberger   Paper													Likel	elihood	Milipation	Determine the severity of the event, based on the information available, within 24			Signage			Open	†
Solutioning Very final and the service of the servi												Very Low I	Low Me	edium High Very High	Mitigation	hours of notification.  Notify the URC Program Director within 24 hours of the emergency event, per 40  CEP 146 94(c)	Major/Serious, Minor	_	Monitoring			Open	
Software great and the service of the control of th											Light				_	Initiate immediate shutdown plan.						Open	1
Softwheeper appropriate the process of the process											Serious								1				1 1
Softwheeper appropriate the process of the process											Major				Mtigation	issues are not a factor such as allowing packer fluid to flow to reservoir and keep well full of liquid.	Major/Serious	Site Operator	Monitoring	Site Operator	Wireline logs, workover rig	Open	
And the second process of the second process											Catastrophin	×			Mitigation	Vent fluids if needed, to maintain reasonable wellbore and surface facilities pressures.		Site Operator	Monitoring	Site Operator		Open	
Adherborger Pipering Mixed regions of months of pressure in region of the control of the control of pressure in region of the control of the co											Multi-Catastrophic				Mitigation	as necessary.		Site Operator	Monitoring	Site Operator		Open	
Softwarfunding performance productions and settled, being we may be appeared an every out-of-stagement and production and settled, being we completed appropriate measured in region of the special performance and settled, being we completed appropriate measured in region of the special performance and settled, being we completed appropriate measured in region of the special performance and settled, being we completed appropriate measured in region of the special performance and settled, being we completed appropriate measured in region of the special performance and settled, being we completed appropriate measured in region of the special performance and settled, being we completed appropriate measured in region of the special performance and settled, being we completed appropriate measured in region of the special performance and settled, being we completed appropriate measured in region of the special performance and settled, being we completed appropriate measured in region of the special performance and settled and perf										[ [					Milipation	Monitor well pressure, temperature, and annulus pressure to verify integrity loss and determine the cause and extent of failure, identify and implement appropriate.	Major/Serious	Well Engineer	Monitoring	Well Engineer	Workover rig	Open	
Social diseasement to destinance whether there has been a base of menhanced where the second of the	20		Schlumberner	Injecting/Monitories		Mechanical intentity test results identify a love of mechanical intentity.	Equipment	HR	Verviow	Catastrophic					Ľ			-	-			1	20
Afficience of the final board board and sufficience of the final process	-		munigul	paragrammity	integrity failure		-,-,-		/						Mitigation		Major/Serious					Open	↓ ~
Subdown to get requires accomplanted. May include plague. Institute of the complanted of the complante															Mitigation	Conduct assessment to determine whether there has been a loss of mechanical integrity.	Minor		,		-	Open	4 l
The residence is the stateman to the stateman															Mitigation	shutdown to get repairs accomplished. May include plugs.	Minor		Monitoring Monitoring			Open	↓
Outside with color and provided and provided of the U.O.Program Monor Well Engineer Monitoring Well Engineer Windles bys Open Control Well Engineer Windles Control Well En															Mitigation	If there is damage to the wellhead, repair the damage and conduct a survey to	Minor		Monitoring			Open	1
Magnificency Well Engineer Monitoring Well Engineer Monitoring Well Engineer Monitoring Well Engineer Season of the Season of th															Mitigation		Minor				Wireline logs	Open	1 1
															Mitigation	Review downhole, wellhead, and annulus pressure data.	Major/Serious	Well Engineer	Monitoring	Well Engineer		Open	1
rentroms are cognit in configuration for a few days are cognitive to a rentrol and antiform course or or a comp.  If all and for large found proceduration of rendering antiform form without antiform form without antiform form of the components.  Millinger  Milling																isosate the nearby area, if needed; establish a safe distance and perimeter using a hard-held air-quality monitor.	Major/Serious		ů			Open	↓
Indicapting a LSDRV, region fastly components.  Many Market State Operator Montroling National Association of the Control of State Operator State Operator State Operator Operator State O															Mitigation		major/Serious				wer og/MIT	upen	
															Mitigation	engangering a USDW, repair faulty components, electrical mail functions without endangering a USDW, repair faulty components. Verify with analon pagines.	Minor	Site Operator	Monitoring/Maintenance	Site Operator		Open	

#### CES Project Preliminary Risk Register



Risk Number  Date Identified By Project Phase  Description of Risk  Risk Trigger(s)  Risk Type Risk Category Likelihood  Severby  Risk Materia  Likelihood  Likeli	Personnel Equipment	Status Ris Num
Very Los Low Medium High Very 1 Mg. Milliogration . Determine the sevently of the event, based on the information available, within 24 Project Migr. Microbing Project Migr.  Light Million (CFR Million) OFFR Million (CFR Million) And Million (CFR Million) Million (		
Very Law Law Manual Figh Very Figh V		Open
Light X CPR 4450 lemodals chalcknown pixt. Magniferations, after Propert May. Monitoring Propert May. Monitoring Propert May.  When the state of the		
		Open
Stat In well (close flow valve). Allow guider fluid into reservoir to stop COZ flow and guagorisations. Site Operator Microtring Site Operator	Wireline, Workover rig to pull	Corre
Magor	tubing if required	Open
Catastropic are not to damage the wellhold or casing, ' employee to a contract of casing and casing		Open
Math-Calabrapite Services on the Contract of t		Open
Milipation Verify pressures and temperatures with availing guages.		
Motorium with pressure temperature, and annual pressure to writing vision and offermine the cases are determined pressure to writing vision and offermine the cases are determined annual annual pressure to the use of in consultation with the UIC Program (Solector).  Well Engineer Monitoring Well Engineer (Well Engineer United Solector).	Wireline logs, workover rig	Open
Softwarener Figure Figu	at Mgr.	Open 3a
dc.) could endurger USDVW.  Steplan  Conflict assessment to determine whether there has been a bas of mediumical Minor Write Engineer Monitoring Wild Engineer	Wireline logs	Open
temperature of the temperature o	Workover rig to set plugs if required	Open
Maliputan State I was close five valve). Allow passeer field into examinor it as slap CO2 flow and suffice. More valve (Allow passeer field into examinor it as slap CO2 flow and suffice.  Well Engineer Monitoring Well Engineer	Workover rig to pull tubing if required	Open
West flash from wellbased in order to materials an acceptable pressures as surface and ultror West Engineer Montrology or to Changage Perfect or to change Perfect O		Open
Mapaire Reset abstraction devices. And an advanced several several instance and an advanced several several instanced se		Open
determine be cause and elect of failure, identify and implement appropriate models of the cause and elect of failure, identify and implement appropriate models of the consultation with the UIC Program (Million Will Engineer Monitoring Well Engine	Wireline logs, workover rig	Open
If there is durage between without repair the damage and conduct a survey to enture well-hand placing his pack and place and	Workover rig	Open
Malipurius Coorffine and Report prior to restarting injection (upon approval of the UID Program Unitor Well Engineer Montoining Well Engineer Montoining Well Engineer	Wireline logs	Open
Wittenam Review control years in an annual series and control years in the control years in t		Open
Malagame. Secondary for executive designation and a definition and principles of the Engineer Monthly for the Engineer Mo	Hand-held air quality monitor  Well log/MIT	Open
Limit access to wellned to subhorized personnel only Sine Operator Signage Sine Operator		Open
Veg Las Law Madales High Veg 1 to Law Wallace High Veg 1 to Monthsoring Project M or Monthsoring		Open
Stayl the Light Light Control within 24 hours of the emergency event, par 40 Magor/Serious, Minor Peoplet Migr. Monthoring Project Migr. Monthoring Project Migr.		Open
Serious Serious Serious Site Operator Montoring Site Operator		Open
Stat I made (low value). Allow peader fluid into reservoir to stop COZ flow and Ungerification. Site Operator Mayor Mayor State I made (low power flowing). Shat I make the power flow flow power flow flow power flowing. Site Operator	Workover rig to pull tubing if required	Open
Catastrophic X Verification and the advanced and the control to marketine acceptable pressures as surface and SupportSerious Site Operator Montholing Site Operator Site O		Open
MACCametropics  Map of Services and Notice in Services and Notice in Services in Installate executation plants. Maporification Size Operator  Map of Services in Installate executation plants.  Map of Services Size Operator  Size Operator		Open
Abortive and processing and another procession to wide yieldown to work yieldown to work yieldown to work yieldown to work and the procession and		Open
Software programs before a program of the programs of the prog	at Mgr.	Open
to the second of	Wireline logs	Open
of these has been part again and mechanical many propers well for froger herm. Manner with a finite proper was for the comparison. Many propers well for froger herm. Manner with a finite proper was a finite proper with the comparison. Many propers well for froger herm. Manner with a finite proper was a finite proper with the comparison of the compariso	Workover rig to set plugs if required	Open
Stage American Company of the Compan	·	Open
decrease we present a first presentate, and annual presentate about present pr	Wireline logs, workover rig	Open
If the in is detained in pair the damage and conduct a survey to water grapher or damage and conduct a survey to water grapher water water weether damage and conduct a survey to water grapher water water weether damage and conduct a survey to water grapher water water water grapher water water water grapher water water water grapher water water grapher water water water grapher grapher water grapher water grapher water grapher water grapher grapher water grapher water grapher water grapher water grapher grapher water grapher water grapher water grapher grapher water grapher grapher water grapher	Workover rig	Open
Malignation Control manufacturing they prior to mediating injection (upon approval of the UIC Program Nation Well Engineer Montrium) Well Engineer Montroling Well Engineer	Wireline logs	Open
Milyalim Review dwarfook, willhand, and announ pressure data. Uniquifications that Engineer Montoring Mile Engineer		Open
usguitum control present prese	Hand-held air quality monitor	Open
Majorium a well logilil To detect CCCI movement audised of the casing. MajoriSerious Well Engineer Monttoring Well Engineer	Well log/MIT	Open

#### CES Project Preliminary Risk Register



Part					Identification						Qualitative	Analysis						Risk Response					
Applie	k per	Date Identified	Identified By	Project Phase	Description of Risk	Risk Trigger(s)	Risk Type	Risk Category	Likelihood	Severity		Risk M			Strateg		Category	Assigned to	Avoidance Measures	Response Personnel	Equipment	Status	Risk Number
Applied   Part											-		Likel	ilhood				Site Operator	Signage	Site Operator		Open	-
Applied   Part										-		Very Low Lo	ow Me	edium High Very Hig	Mégation	hours of notification.		Site Operator	Monitoring	Project Mgr.		Open	- 1
Application   Property   Proper											Light				Mitigation	CFR 146.91(c).	Major/Serious, Minor	Site Operator	Monitoring	Project Mgr.		Open	
Allegan   Part											> Serious				Miligation	Initiate shutdown of plant.	Major/Serious/Minor	Site Operator	Monitoring	Site Operator		Open	
All column   Property   Propert											Major					If the presence of indicator parameters is confirmed, develop (in consultation with the UIC Program Director) a case-specific work plan to:		Site Operator	Monitoring	Project Mgr.		Open	1 1
Manager   Mana											Catastassis	×			Mitigation	Install additional groundwater monitoring points near the affected groundwater well(s) to delineate the extent of impact; and	Major/Serious/Minor	GW Consultant	Monitoring	GW Consultant		Open	
## Part of Column and			Schlimberner	Throughout	Elvid (e.g. brine) leakage to a LISENW	necessarily to a USDW) to address unanticipated events associated with	Leokone	Environmental	Very Low	Catastrophic		^			Mitigation	Remediate unacceptable impacts to the affected USDW.	Major/Serious/Minor	GW Consultant	Monitoring	GW Consultant		Open	40
Part					1 and (e.g. arms) samage to a occurr				,						Miligation	Arrange for an alternate potable water supply, if the USDW was being utilized and has been caused to exceed drinking water standards.	Major/Serious/Minor	GW Consultant	Monitoring	GW Consultant		Open	-
March   Marc															Mitigation	Proceed with efforts to remediate USDW to mitigate any unsafe conditions (e.g., install system to intercept/extract brine or CO2or "pump and treat" to alerate CO2-	Major/Serious/Minor	GW Consultant	Monitoring	GW Consultant		Open	
														Mitigation	be determined by Clean Energy Systems and the UIC Program Director) until	Major/Serious/Minor	GW Consultant	Monitoring	GW Consultant		Open		
Thingstall   Part   P													Mitigation	Address a well integrity issue, including taking specific steps to identity the location of the failure/leak, affect repairs, and demonstrate MI.	Major/Serious/Minor	Well Eng., Project Mgr.	Monitoring	Well Eng., Project Mgr.		Open			
Part														Mitigation	Isolate the nearby area, if needed; establish a safe distance and perimeter using a hand-held air-quality monitor.	Major/Serious/Minor	Site Operator	Monitoring	Air monitoring	Hand-held air quality monitor	Open		
## Provided # Provided													Likel	ilhood		Limit access to wellhead to authorized personnel only.		Site Operator	Signage	Site Operator		Open	
Application of Comment of a fine production of a												Very Low Lo	ow Me	edium High Very Hig	Mitigation			Site Operator	Monitoring	Project Mgr.		Open	
## Part of the COS (bushing to 1) Companied and programme and control developed control and control an											Linte				Miligation	Notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).	Major/Serious, Minor	Site Operator	Monitoring	Project Mgr.		Open	1 1
Part											- Surjeys				Mitigation	Initiate shutdown plan.	Major/Serious/Minor	Site Operator	Monitoring	Site Operator		Open	1 1
And a graphical part of Composend and of the pythole and pict. And and an anti-process of the pythole and pict. And and an anti-process of the pythole and pict. And and anti-process of the pythole and anti-process of the p										1					If the presence of indicator parameters is confirmed, develop (in consultation with the LHC Program Director) a case-specific work plan to:		Site Operator	Monitoring	Project Mgr.		Open	1	
Reference of the Particular Proof of the Particular Pr											60 Major	Ų.			Mitigation	Install additional groundwater monitoring points near the affected groundwater	Major/Serious/Minor	GW Consultant	Monitoring	GW Consultant		Open	1
Trugford  Antier disease (i.e., and order principles, or ground country and principles and princ			C-60-mb	Thomas	Press - 000 between a 1800W		th	Eminomontal	Manual man	Low Catastrophic	Catastrophic	X			Mitigation		Major/Serious/Minor	GW Consultant	Monitoring	GW Consultant		Open	4b
For Standard Guarder (a), unable of the Contract of Manual Contract of the Con			Schlanbeiger	THOUGHOU	Fluid (e.g. CO2) earlage to a GSDW		Leanings	Limoniana	THIYLUM		Mus-Cassaroptic				Mitigation		Major/Serious/Minor	GW Consultant	Monitoring	GW Consultant		Open	40
Major or determinant by Committed and the Life Program Descript your beauth for Park Committed and the Life Program Descript your beauth for Park Committed and the Life Program Descript your beauth for Park Committed and the Life Program Descript your beauth for Park Committed and the Life Program Descript your beauth for Park Committed and the Life Program Descript your beauth for Park Committed and the Life Program Descript your beauth for Park Committed and the Life Program Descript your beauth for Park Desc															Mitigation	Proceed with efforts to remediate USDW to mitigate any unsafe conditions (e.g., install system to intercept/extract brine or CO2or "pump and treat" to aerate CO2-	Major/Serious/Minor	GW Consultant	Monitoring	GW Consultant		Open	1
Labeled Francisco Calculation and principles of the Committee Control of the Control of the Committee Control of the Committee Control of the Committee Control of the Control o															Mitigation	be determined by Clean Energy Systems and the UIC Program Director) until	Major/Serious/Minor	GW Consultant	Monitoring	GW Consultant		Open	
Solution from registery and premoter usual substitution containing and personal registery a															Mitigation	Address a well integrity issue, including taking specific steps to identity the location of the failure/leak affect repairs, and demonstrate MI.	Major/Serious/Minor	Well Eng., Project Mgr.	Monitoring	Well Eng., Project Mgr.		Open	1
Lee Catalogue Provided Galactic (a.g., cardique) and contract in general and classic (a.g., cardique) and contract general and classic (a.g., cardique) and contract general and classic (a.g., cardique) and contract general and classic facilities.  **A vibrate disaster (a.g., cardique) and contract general and classic (a.g., cardique) and contract general and classic facilities.  **Lee Catalogue Provided Catalogue (a.g., cardique) and contract general and classic facilities.  **Lee Catalogue Provided Catalogue (a.g., cardique) and contract general and classic facilities.  **Lee Catalogue Provided Catalogue (a.g., cardique) and contract general and classic facilities.  **Lee Catalogue Provided Catalogue (a.g., cardique) and contract general and classic facilities.  **Lee Catalogue Provided Catalogue (a.g., cardique) and contract general and classic facilities.  **Lee Catalogue Provided Catalogue (a.g., cardique) and contract general and classic facilities.  **Lee Catalogue Provided Catalogue (a.g., cardique) and contract general and classic and classic general and classic facilities.  **Lee Catalogue Provided Catalogue (a.g., cardique) and contract general and classic and classic general and classic general and classic and classic general and classic gener															Mitigation	Isolate the nearby area, if needed; establish a safe distance and perimeter using a	Major/Serious/Minor	Site Operator	Fence	Air monitoring	Hand-held air quality monitor	Open	1
Software grant of the control of the	_												Likel	ilhood			i e	Site Operator	Signage	Site Operator		Open	$\vdash$
Softwarelegger  Throughout  A return diseaser (a.g., certificage)  A return diseaser (a.g., certificage)  Experimental diseaser (a.g., certificage)  Exper											ľ	Vond on		office Make No	Mitigation	Determine the severity of the event, based on the information available, within 24						Open	1 1
Softwarenegar Throughout A retained dealers (a.g., certagraphs, broads, fylieting glish) and off-fereigned and dealers (a.g., certagraphs, broads, fylieting glish) and off-fereigned and dealers (a.g., certagraphs, broads, fylieting glish) and off-fereigned and dealers (a.g., certagraphs, broads, fylieting glish) and off-fereigned and dealers (a.g., certagraphs, broads, fylieting glish) and off-fereigned glish glish gli										İ		very cod C	UW NO	regit very rig	Mitigation	Notify the UIC Program Director within 24 hours of the emergency event, per 40	1						1 1
Software groups and the following states are sufficient for supplied to the following states are sufficient fo											Light Serious				Miligation							Open Open	1 1
Softwarderger Throughout A natural diseaser (e.g continguals, britished, contracting the contracting plants controlling the controlling plants of the production of the pro											Major				Mégation		Major/Serious/Minor		Preventative Operation	Site Operator		Open	1 1
Sa Schamberger Throughout A natural desider (a.g., confugual, broado, lighting or the) Investigation of the confugual control of the lighting or the) Investigation of the lighting or the lig			1										X		Mitigation	Vent CO2 from surface facilities if appropriate.	Major/Serious/Minor	Site Operator	Preventative Operation	Site Operator		Open	4 )
Softwarelegies Throughout A natural diseaser (e.g., ceregroups, burnadous, lygrating sizes). Any segment diseaser (e.g., ceregroups, burnadous, lygrating sizes). A natural diseaser (e.g., ceregroups, burnadous, lygrating sizes). Throughout A natural diseaser (e.g., ceregroups, burnadous, lygrating sizes). Throughout A natural diseaser (e.g., ceregroups, burnadous, lygrating sizes). Throughout A natural diseaser (e.g., ceregroups, burnadous, lygrating sizes). Throughout a second control of basic lygrating sizes (e.g., ceregroups, burnadous, lygrating sizes). Throughout a second control of basic lygrating sizes (e.g., ceregroups, burnadous, lygrating sizes). Throughout a second sec			1							l İ	mus-Casara Offic				Mitigation	as necessary.	Major/Serious	Site Operator	Monitoring			Open	1 )
bornado, typising olike)  Seather-ordand desasteria (e.g., breadour fightings office) may effect  Set from the following of the common of any leaded to ground water or surfaces water cocument.  Magesteria  Seather-ordand desasteria (e.g., breadour fightings office) may effect  Set from the following office of the common office of the common office of the common office of the common office of the common office of the common office of the common office of the common office of the common office of the common office of the common office of the common office of the common office of the common office of the common office of the common office of the common office of the common office of the common of			Cath anharman	Thomason	A natural disaster (e.g., earthquake.	result of a natural disaster affecting the normal operation of the injection				0					Mitigation	determine the cause and extent of failure; identify and implement appropriate remedial actions to repair damage to the well (in consultation with the UIC Program			Monitoring			Open	
Assignant included a contract properties mendal action (in Magniferious Constitute) of the detailed and the No. Of Program Detailed (in Magniferious Constitute) of the Constitute of the Consti	.		Sandinberger	Throughout		weather-related disasters (e.g., tornado or lightning strike) may affect	restant	Lowronmental	LOW	Cassasopne					Mitigation	,	Major/Serious	GW Consultant	Monitoring	GW Consultant		Open	DM
Tengrity  Tengri															Mitigation	If contamination is detected, identify and implement appropriate remedial actions (i	Major/Serious	GW Consultant	Remedial Action	GW Consultant		Open	1
Wileyamor Whee has been also and embergined intentive. While all sections all the Company Security Sec															Mitigation		Minor	Site Operator	Monitoring	Site Operator		Open	1
Affirm the not form a first front form of front and gradual shiftedness and form of first front form of fi																	Minor					Open	1
determine the cause and eleter of failure; identify and implement appropriate															Mitigation	If there has not been a loss of mechanical integrity, initiate gradual shutdown.	Minor	Site Operator	Remedial Action	Site Operator		Open	4 1
														Mitigation	Monitor well pressure, temperature, and annulus pressure to verify integrity loss and	Mari	Site Operator	Monitoring	Site Operator		Open		
Onesian)																Director).							

#### CES Project Preliminary Risk Register



			Identification						Qualitativ	e Analysis				Risk Response					
										Likelihood		Limit access to wellhead to authorized personnel only.		Site Operator	Signage	Site Operator		Open	
		Throughout or						- F	Light	Very Low Medium High Ve	ry High Mitigation	Determine the severity of the event, based on the information available, within 24 hours of notification.		Site Operator	Monitoring	Site Operator		Open	
6a	Schlumberger	Infougnout or injection	Induced or natural seismic event	1. Injection operation inducing a seismic event equal to or less than M1.5	Seismic	Environmental	Medium	Light	€ Serious		Mitigation	Notify the UIC Program Director within 24 hours of the emergency event, per 40							6a
		-							Major Catastrophic		Minution	CFR 146.91(c). Continue pormal operation within permitted levels	Minor	Site Operator Site Operator	Monitoring	Site Operator Site Operator		Open Open	4
									Multi-Catastrophic		Mitigation	Continue normal operation within permitted levels.  Document the event for reporting to EPA in semiannual reports.	Minor	Site Operator		Site Operator/Micoseimic Provider	Microseismic monitoring	Open	
										Likelihood		Limit access to wellhead to authorized personnel only.		Site Operator	Signage	Site Operator		Open	
								L		Very Low Medium High Ve	ry High	Determine the severity of the event, based on the information available, within 24						-	1
									Light b	X	Mitigation	hours of notification.		Site Operator	Monitoring	Site Operator		Open	4
								- 1	Serious Major		Minution	Notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).	Major/Serious, Minor	Site Operator	Monitoring	Site Operator		Onen	
									Catastrophic		Mitigation	Continue normal operation within permitted levels.	Minor	Site Operator		Site Operator		Open	
6b	Schlumberger <sup>TI</sup>	Throughout or injection	Induced or natural seismic event	Five (5) or more seismic events within a 30-day period having a magnitude greater than M1.5 but less than or equal to M2.0	Seismic	Environmental	Medium	Light	Multi-Catastrophic		Mitigation	Initiate gradual shutdown of the well if it is determined to be appropriate.	Minor	Site Operator		Site Operator		Open	6b
		-,										Review seismic and operational data to determine location and magnitude of seismic event. If the event falls within or near the extents of the plume, use the							
												microseismic, geomechanics and facies data to estimate potential impact to							
												USDWs. Perform a pressure fall-off test to determine if the storage complex has been compromised by the seismic event.	Minn	Microseismic provider		Site Operator	Microseismic monitoring, fall-off	0	
												Report findings to the UIC Program Director and issue corrective actions.	Minor	Site Operator		Site Operator	1054	Open	1
												Document the event for reporting to EPA in semiannual reports.	Minor	Site Operator		Site Operator/Micoseimic Provider	Microseismic monitoring	Open	
										Likelihood		Limit access to wellhead to authorized personnel only.		Site Operator	Signage	Site Operator		Open	
								L		Very Low Medium High Ve	ry High	Determine the severity of the event, based on the information available, within 24							
									Light		Militarion	hours of notification		Site Operator	Monitoring	Site Operator		Open	4
								1	Serious Major	X	Milipation	Notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).	Major/Serious, Minor	Site Operator	Monitoring	Site Operator		Open	
	-	Throughout or							Catastrophic		Migation	Continue normal operation within permitted levels.	Minor	Site Operator		Site Operator		Open	
6c		Infoughout or injection	Induced or natural seismic event	<ol> <li>Seismic event greater than M1.5 and local observation or felt report.</li> </ol>	Seismic	Environmental	Medium	Major	Multi-Catastrophic		Mitigation	Initiate gradual shutdown of the well if it is determined to be appropriate.	Minor	Site Operator	1	Site Operator	1	Upen	6c
1					1	1	1 1	J				Review seismic and operational data to determine location and magnitude of seismic event. If the event falls within or near the extents of the plume, use the	1	1					1
1					1	1	1 1	J				microseismic, geomechanics and facies data to estimate potential impact to	1	1					1
1					1	1	1 1	J				USDWs. Perform a pressure fall-off test to determine if the storage complex has been compromised by the seismic event.	Minor	Microseismic provider		Site Operator	Microseismic monitoring, fall-off test	Open	1
1					1	1	1 1	J				Report findings to the UIC Program Director and issue corrective actions.	Minor	Site Operator		Site Operator		Open	
$\vdash$				1								Document the event for reporting to EPA in semiannual reports.	Minor	Site Operator	1	Site Operator/Micoseimic Provider	Microseismic monitoring		_
					1					Very Low Medium High Ve		Limit access to wellhead to authorized personnel only.		Site Operator	Signage	Site Operator		Open	
								H	Light	Very Low Medium High Ve	ny High Misseries	Determine the severity of the event, based on the information available, within 24 hours of notification.		Site Operator	Monitorina	Site Operator		Onen	
								i	Serious		Medicinon	Notify the UIC Program Director within 24 hours of the emergency event, per 40		Sile Coeraior	MOTHOTHO	Sile Oberator		Coen	1
									Major		Migation	CFR 146.91(c).	Major/Serious, Minor	Site Operator	Monitoring	Site Operator		Open	
		Throughout or	Induced or natural seismic event					٩	Catastrophic Multi Catastrophic		Migation	Continue normal operation within permitted levels.  Initiate gradual shutdown of the well if it is determined to be appropriate.	Minor	Site Operator Site Operator		Site Operator Site Operator		Open	4
60		injection		Seismic event greater than M2.0 and no felt report	Seismic	Environmental	Low	Light	- Indo-Catalogia		mogazo:	Review seismic and operational data to determine location and magnitude of	man.	Они Оринион		CHE OPERADI		Opan	- 6c
												seismic event. If the event falls within or near the extents of the plume, use the microseismic geomechanics and facies data to estimate potential impact to							
												USDWs. Perform a pressure fall-off test to determine if the storage complex has							
												been compromised by the seismic event.	Minor	Microseismic provider		Site Operator	Microseismic monitoring, fall-off	Onen	
												Report findings to the UIC Program Director and issue corrective actions.	Minor	Site Operator		Site Operator	1055	Open	
												Document the event for reporting to EPA in semiannual reports.	Minor	Site Operator		Site Operator/Micoseimic Provider	Microseismic monitoring	Open	
										Likelihood		Limit access to wellhead to authorized personnel only.		Site Operator	Signage	Site Operator		Open	
									Light	Very Low Medium High Ve	ry High	Determine the severity of the event, based on the information available, within 24 hours of notification.		Cita Consister	Mantenier	Etc. Occupies		0	
									Serious		Militarion	Notify the UIC Program Director within 24 hours of the emergency event, per 40		Site Operator	Montoring	Site Operator		Open	1
									Major	X	Mitigation	CFR 146.91(c).	Major/Serious, Minor	Site Operator	Monitoring	Site Operator		Open	
								eō.											
									Catastrophic		Mitigation	Initiate gradual shutdown of the well if it is determined to be appropriate.	Minor	Site Operator		Site Operator		Орин	
									Multi-Catastrophic		Mitigation	initiate gradual shutdown of the wei if it is determined to be appropriate.  Communicate with facility personnel and local authorities to initiate evacuation plans, as necessary.	Minor	Site Operator Site Operator	Monitoring	Site Operator Site Operator		Open	
									Multi-Catastrophic		Mitigation	Communicate with facility personnel and local authorities to initiate evacuation plans, as necessary.  Monitor well pressure, temperature, and annulus pressure to verify well status and	Minor		Monitoring			Open	
									Multi-Catastrophic		Mitigation  Mitigation	Communicate with facility personnel and local authorities to initiate evacuation plans, as necessary.  An annulus pressure, temperature, and annulus pressure to verify well status and determine the cause and extent of any failure, identify and implement appropriate	Minor	Site Operator	Monitoring	Site Operator		Open	
6d	Schlumberger <sup>TI</sup>	Throughout or injection	Induced or natural seismic event	Seismic event greater than M2.0 and local observation or report	Seismic	Environmental	Low	Major	Multi-Catastrophic		Mitigation Mitigation Mitigation	Communicate with facility personnel and local authorities to initiate evacuation plans, as necessary.  Monitor well pressure, temperature, and annulus pressure to verify well status and	Minor Minor		Monitoring			Open Open	6d
6d	Schlumberger <sup>TI</sup>	Throughout or injection	Induced or natural seismic event	Seismic event greater than M2.0 and local observation or report	Seismic	Environmental	Low	Major	Multi-Catastrophic		Miligation  Miligation  Miligation  Miligation	Communicate with facility personnel and local authorities to initiate evocuation spiers, as necessary, temperature, and annulus pressure to verify well status and Monitor well pressure, temperature, and annulus pressure to verify well status and determine the case and extend of any failure; identify and implement appropriate personnel or surface of the status of the surface personnel or surface of the surface pocured.	Minor Minor Minor Major/Serious	Site Operator	Monitoring	Site Operator		Open Open Open	6d
6d	Schlamberger Ti	Throughout or injection	Induced or natural seismic event	Seismic event greater than M2.0 and local observation or report	Seismic	Environmental	Low	Major	Calasteophic  Muts-Catastrophic		Mitigation  Mitigation  Mitigation	Communicate with facility personnel and local authorities to initiate evocuation plane, as mosciary.  Monitor unel pressure, temperature, and annulas pressure to verify well status and determine the cause and extent of any haive; dentity and implement appropriate remedial actions (in consultation with the UIC Program Director). Determine if leads to ground water or surface water or a COZ loak to the surface cocumed.  If a COZ loak or USDW contamination/indirangement is detected. Notify the UIC if a COZ loak or USDW contamination/indirangement is detected.	Minor Minor Minor Major/Serious	Site Operator	Monitoring	Site Operator		Open Open Open	6d
6d	Schlumberger TI	Throughout or injection	Induced or natural seismic event	Seismic event greater than M2.0 and local observation or report	Seismic	Environmental	Low	Major	Multi-Callas trophic		Miligation  Miligation  Miligation  Miligation	Communicate with facility personnel and local authorities to initiate evocuation spiers, as necessary, temperature, and annulus pressure to verify well status and Monitor well pressure, temperature, and annulus pressure to verify well status and determine the case and extend of any failure; identify and implement appropriate personnel or surface of the status of the surface personnel or surface of the surface pocured.	Minor Minor Minor Major/Serious	Site Operator	Monitoring	Site Operator		Open Open Open Open Open	6d
6d	Schlumberger Ti	Throughout or injection	Induced or natural seismic event	Selamic event greater than M2.0 and local observation or report	Seismic	Environmental	Low	Major	Galashophic Multi-Catashophic		Miligation Miligation Miligation Miligation Miligation Miligation	Communication with facility personnel and local authorities to intridu encounting forms, as intensities that is a second control of the communication of the communication forms and the communication of the communication of the communication deletions for plants teacher or yellow second or a COVI which is the communication communication of the communication of the COVI produce Developed. Occurred.  Occurred. The communication of the communication of the covider of the covider of the communication of the covider of the co	Minor Minor Minor Major/Serious	Site Operator Site Operator GW Consultant	Monitoring	Site Operator		Open Open Open Open Open	6d
6d	Schlumberger TI	Throughout or injection	Induced or natural seismic event	Seismic event greater than M2.0 and local observation or report	Seismic	Environmental	Low	Major	Catastephs: Multi-Catastephic		Mispation Mispation Mispation Mispation Mispation Mispation	Communication with facility personnel and tool authorities to institute evocation forms as received:  Motion are dipresses, temperature, and annals pressure to verify well status and facilities and the second s	Minor Minor Minor Major/Serious	Site Operator Site Operator GW Consultant	Moritoring	Site Operator		Open Open Open Open	6d
6d	Schlamberger Ti	Throughout or injection	Induced or natural seismic event	Selsmic event greater than M2.0 and local observation or report	Seismic	Emirormental	Low	Major	Catastephs: Multi-Catastephic		Misquion Misquion Misquion Misquion Misquion	Communication with facility personnel and local authorities to intitude execution forms, as intensitive than as intensitive than a transitive than a transitive and a second personnel and a second personnel appropriate execution between the case and other of any fallow, descript and imprisent appropriate execution and a second personnel and a second personnel appropriate second and a second personnel and a second personnel appropriate second personnel and a second personnel and a second personnel and a second personnel appropriate second and a second personnel and a second personnel appropriate second and action as or consultation and the Electrical second and action as or consultation and the Electrical second and a second personnel and a second personnel and a second personnel second personnel and a second personnel and a second personnel second personnel and a second personnel and a second personnel second personnel and a second personnel and a second personnel second personnel and a second personnel and a second personnel second personnel and a second personnel and a second personnel second personnel and a second personnel and a second personnel second personnel and a second personnel second personnel and a second personnel second p	Minor Minor Minor Maior/Serious	Site Operator Site Operator GW Consultant Site Operator	Monitoring	Site Operator  Site Operator  GW Connellant  Site Operator	Microselismic monitoring, fall-off	Open Open Open Open	6d
6d	Schlanberger TI	Throughout or injection	Induced or natural seismic event	Seismic event greater than M2.0 and local observation or report	Seismic	Emirormental	Low	Major	Catastophic Multi-Catastophic		Misquion  Misquion  Misquion  Misquion  Misquion	Communication with facility personnel and tools authorities to institute evocution.  Motions are designed in representate, and sminlar personate to verify well statut and statute and sta	Minor Minor Minor Major/Seríous	Site Operator  Site Operator  GW Consultant  Site Operator  Microselsmic provider	Moritoring	Site Operator  Site Operator  GW Consultant  Site Operator	Microselismic monitoring, fall-off test	Open Open Open Open Open Open	6d
6d	Schimberger T	Throughout or injection	Induced or natural selsmic event	Setimic event greater than M2.0 and local observation or report	Seismic	Emilronmental	Low	Major	Catastephic Multi-Catastephic		Mitgation Mitgation Mitgation Mitgation Mitgation Mitgation Mitgation Mitgation	Communication with facility personnel and local authorities to intitude execution forms, as intensitive than as intensitive than a transitive than a transitive and a second personnel and a second personnel appropriate execution between the case and other of any fallow, descript and imprisent appropriate execution and a second personnel and a second personnel appropriate second and a second personnel and a second personnel appropriate second personnel and a second personnel and a second personnel and a second personnel appropriate second and a second personnel and a second personnel appropriate second and action as or consultation and the Electrical second and action as or consultation and the Electrical second and a second personnel and a second personnel and a second personnel second personnel and a second personnel and a second personnel second personnel and a second personnel and a second personnel second personnel and a second personnel and a second personnel second personnel and a second personnel and a second personnel second personnel and a second personnel and a second personnel second personnel and a second personnel and a second personnel second personnel and a second personnel second personnel and a second personnel second p	Minor Minor Maior/Serious  Minor	Site Operator Site Operator GW Consultant Site Operator	Monitoring	Site Operator  Site Operator  GW Connellant  Site Operator	Microseismic monitoring, fall-off Microseismic monitorina	Open Open Open Open Open Open Open Open	6d
6d	Schimbeger T	Throughout or injection	Induced or natural seismic event	Selantic event greater than M2.0 and local observation or report	Seiamic	Environmental	Low	Major	O Catalogistic  MAS-Catalogistic	Matter	Miligation Miligation Miligation Miligation Miligation Miligation Miligation	Communication with facility personnel and local administers for intime encountion than as intensities to the control of the c	Minor Minor Major/Serious Minor	Site Operator  Site Operator  GW Consultant  Site Operator  Microselismic provider  Site Operator  Site Operator  Site Operator	Moritating	Site Operator Site Operator GW Consultant Site Operator Site Operator Site Operator Site Operator Site Operator Site Operator Site Operator Site Operator	Microseismic monitoring, fall-off test	Open Open Open Open Open Open Open Open	6d
6d	Schimberger T	Throughout or injection	Induced or natural seleminic event	Selantic event greater than M2.0 and local observation or report	Seismic	Emironmental	Low	Major	O Calaboghic MAB-Catastophic	Likelihood	Miligation Miligation Miligation Miligation Miligation Miligation	Communication with facility personnel and local administers for intime encounting forms as tenderated.  The communication are considered and analysis of the communication and communication and communication and the communication and communic	Minor Minor Major/Seriosa Minor	Site Operator  Site Operator  GW Consultant  Site Operator  Microselismic provider  Site Operator	Monitoring  Monitoring	Site Operator  Site Operator  GW Consultant  Site Operator	Microseismic monitoring, fall-off test	Open Open Open Open Open Open Open Open	6d
6d	Schinbager T	Throughout or injection	Induced or natural selemic overs	Seismic event greater than M2.0 and local observation or report	Seismic	Environmental	Low	Major	Mati-Catavophic	Likelihood  Vertor tor bloke top to	Miligation  Miligation  Miligation  Miligation  Miligation  Miligation  Miligation  Miligation	Communication with facility personnel and local administers for intime encountion than as intensities to the control of the c	Minor Minor Malor/Serious Minor	Site Operator Site Operator GW Consultant Site Operator Site Operator Microselerric provider Site Operator Site Operator Site Operator	Moritoring  Signage	Site Operator Site Operator GOY Consultant Site Operator Site Operator Site Operator Site Operator Site Operator Site Operator	Microseismic monitoring, fall-off test	Open Open Open Open Open Open Open Open	6d
6d	Schimbeger	Throughout or injection	Induced or natural selective event	Selectic event greater than M2.0 and local observation or report	Seiamic	Environmental	Low	Major	Calabotophic  MARI-Catastrophic  Light  Serious	Likelihood	Mitgation  Mitgation  Mitgation  Mitgation  Mitgation  Mitgation  Mitgation  Mitgation  Mitgation  Mitgation	Communication with faulty personnel and local authorities to intrinse encounting contains a treatment of the control of the c	Minor Minor Major/Serfous Minor	Site Operator  Site Operator  Site Operator  Site Ocerator  Microselsmic provider Site Operator  Site Operator  Site Operator	Monitoring  Signage	tible Operator  Site Operator  SW. Consider  SW. Consider  Site Operator	Microselamic monitoring, fall-off test. Microselamic monitoring	Open Open Open Open Open Open Open Open	6d
6d	Schimbager T	Throughout or injection	Induced or natural selectic oversi	Selantic event greater than M2.0 and local observation or report	Selamic	Emironmental	Low	Major	Madi Catavo princi  Light Serfous  Millor	Likelihood	Misjution  Misjution  Misjution  Misjution  Misjution  Misjution  Misjution  Misjution  Misjution  Misjution  Misjution  Misjution	Communication with facility personnel and local administers for interacecounts of the local as interesting to the local as interesting to the local as interesting the local as interesting the local as interesting the local as in the local as interesting the local as inte	Minor Maior/Serious Minor Maior/Serious Minor Major/Serious Minor	Site Operator Site Operator GW Consultant Site Coerator Microsolismic povider Site Operator Site Operator Site Operator Site Operator Site Operator	Montoring  Montoring	Site Operator  Site Operator  OW Consulted  Site Operator	Microselamic monitoring, fall-off test	Open Open Open Open Open Open Open Open	6d
6d	Softamberger 11	Throughout or injection	Induced or natural selectric event	Selentic event greater than M2.0 and local observation or report	Selamic	Emironmental	Low	Major	Mati-Catavophic  Light	Likelihood	Misquison Misqui	Communication with facility personnel and tool authorities to intriduce encounting Continuations and the continuation of the	Minor Minor Malor/Serious Major/Serious Major/Serious Major/Serious Minor	Site Operator  Site Operator  Site Operator  Site Ocerator  Microselsmic provider Site Operator  Site Operator  Site Operator	Monitoring  Monitoring	tible Operator  Site Operator  SW. Consider  SW. Consider  Site Operator	Microseismic monitoring, fall-off and. Microseismic monitoring	Open Open Open Open Open Open Open Open	6d
6d	Schimbager T	Throughout or injection	Induced or natural selemic event	Setamic event greater than M2.0 and local observation or report	Seismic	Environmental	Low	Major	Madi Catavo princi  Light Serfous  Millor	Likelihood	Misjation Misjation Misjation Misjation Misjation Misjation Misjation Misjation Misjation Misjation Misjation	Communication with facility personnel and local authorities to intitude encounting them, as intenditive than as intenditive than as the control of the co	Minor Minor Minor Malor/Serious Minor Minor Minor Minor Minor Minor Minor Minor Minor Minor Minor Minor	Site Operator  Site Operator  GW Consultant  Site Operator  Microseteric provider  Site Operator  Site Operator  Site Operator  Site Operator  Site Operator  Site Operator	Monitoring  Signage	Site Operator  Site Operator  OX Cores Bart  Site Operator	Micoseimic montering, fal-off fact.	Cpen Cpen Cpen Cpen Cpen Cpen Cpen Cpen	6d
6d	Sdlambeger 11	Throughout or significant	Induced or natural selectric event	Selentic event greater than M2.0 and local observation or report	Seismic	Enfromental	Low	Major	Madi Catavo princi  Light Serfous  Millor	Likelihood	Milipation Milipation Milipation Milipation Milipation Milipation Milipation Milipation Milipation Milipation Milipation Milipation Milipation Milipation Milipation Milipation Milipation Milipation Milipation Milipation	Communication with facility personnel and tool authorities to intriduce encounting Continuations and the continuation of the	Minor Minor Malor/Serious Minor Malor/Serious Minor Minor Minor Minor Minor Minor Minor	Site Operator Site Operator GW Consultant Site Coerator Microsolismic povider Site Operator Site Operator Site Operator Site Operator Site Operator	Monitoring  Monitoring	Site Operator  Site Operator  OW Consulted  Site Operator	Microsecuric monitoring, fall-off and Microsecuric monitoring.	Open Cipen C	6d
		injection		Settintic event creater than W.2.0 and local observation or record.	Seismic	Environmental		- Breading	Madi Catavo princi  Light Serfous  Millor	Likelihood	Misjution Misjution Misjution Misjution Misjution Misjution Misjution Misjution Misjution Misjution Misjution Misjution Misjution Misjution Misjution Misjution Misjution	Communication with facility personnel and local administers for intime encountion.  Communication with many programs, and among pressure to early system states and determine her cases and other of any shales destroyly and responsed to early shales and administers and the communication of the communication and the communication of a COSIA data. The communication and comm	Minor Minor Minor Malor/Serious Minor Minor Minor Minor Minor Minor Minor	Site Operator  Site Operator  Site Operator  Site Operator  Site Operator  Site Operator  Site Operator  Site Operator  Site Operator  Site Operator  Site Operator	Monitoring  Signature	Site Operator  Site Operator  OX Coron fact  Site Operator	Microsennic montening, fal-off feet.	Open Coen Coen Coen Coen Coen Coen Coen Co	6d
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